NC/QC/YPD/W3/2018-19/PA-W1 Date: 19-11-2018

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**96.75**	95-100
26.50	**---**	-
22.40	**70.10**	60-80
11.20	**54.85**	40-60
4.75	**32.60**	25-40
2.36	**23.80**	15-30
0.600	**16.90**	8-22
0.075	**4.15**	0-5

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Date: 19-11-2018

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.85 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**29.10 %**	Not more than 35.0 %
3.	Water absorption, %	**0.38%**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

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NC/QC/YPD/W3/2018-19/PA-C1

Date: 19-11-2018

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

PHYSICAL TESTS ON CEMENT

Brand : Bharathi
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**153 min**	Shall not be less than 30 min
2	Final setting time	**254 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.98 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.80 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results) b) 7 days (average of three results)	**28.86 N/Sq mm** **39.50 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

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NC/QC/YPD/W3/2018-19/PA-FA1

Date: 19-11-2018

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}

Ref.: Material testing/QC/18-19,

Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**96.45**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**87.80**	60-95	75-100	85-100	
01.18	**68.35**	30-70	55-90	75-100	
600. mic	**46.50**	15.34	35-59	60-79	
300.mic	**17.60**	5-20	8-30	12-40	
150.mic	**4.85**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.15 %**	-----
2	Silt Content	----	**0.63 %**	Not more than 8%
3	Specific Gravity	----	**2.62**	-------

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NC/QC/YPD/W3/2018-19/PA-CA1 **Date: 19-11-2018**

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	**100.00**	100.00	100.00
20 mm	**97.85**	85-100	90 - 100
10 mm	**43.10**	0 - 20	25 - 55
4.75 mm	**4.15**	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	**20.90 %**	Not to exceed 25 %
2.	Crushing value	**24.35 %**	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/QC/YPD/W3/2018-19/PA-CB1 **Date: 27-11-2018**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{15}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	20-11-18	27-11-18	07	22500	290	12.89	**12.96**
	002	"	"	"	"	300	13.33	
	003	"	"	"	"	285	12.67	

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NC/QC/YPD/W3/2018-19/PA-CB1a **Date: 18-12-2018**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{15}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	20-11-18	18-12-18	28	22500	390	17.33	**17.04**
	002	"	"	"	"	375	16.67	
	003	"	"	"	"	385	17.11	

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NC/QC/YPD/W3/2018-19/PA-K1 **Date: 30-11-2018**

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Projects Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.40	23.60	**22.68**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.27	21.90		
3	003	3.32	22.55		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.30	**4.44**
2	002	4.56	
3	003	4.48	

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NC/QC/YPD/W3/2018-19/PA-K2

Date: 30-11-2018

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Attur ward - 3 Fixing of open GYM equipment in Park Near Ambabhavi Temple.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
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Name of the Agency/Contractor*: Sri. K Lakshmi Narayana Reddy.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.38	23.45	**23.06**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.35	22.95		
3	003	3.34	22.80		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.10	**3.98**
2	002	4.05	
3	003	3.80	

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